Claims

What is claimed is:

1. A heat dissipating device, comprising:

a main body having a surface that is plated or coated with at least two different metals to form a design effective for bonding to solder and for adhering to polymer in a thermal interface material.

2. The heat dissipating device of claim 1, wherein the two metals are one or more of the combinations of Ni/Au, Ni/Ag, Cu/Au, Cu/Ag, and Cu/Ni.

3. The heat dissipating device of claim 1 wherein the design is a checkered square grid.

4. The heat dissipating device of claim 1 wherein the design is a grid comprising circles.

5. The heat dissipating device of claim 1 wherein the design is a bull's Eye.

6. The heat dissipating device of claim 1 wherein the design comprises corner squares.

7. The heat dissipating device of claim 1 wherein the design comprises a central square.

8. An integrated circuit package comprising the heat dissipating device of claim 1.

9. An electronic system comprising the integrated circuit package of claim 8.

10. An electronic assembly comprising the integrated circuit package of claim 8.

11. A method for preventing delamination of thermal interface materials contacting a heat dissipating device, comprising:

Plating a surface of the heat dissipating device with at least two different metals to form a design effective for bonding to solder and for adhering to polymer, wherein the surface contacts the thermal interface material.

12. The method of claim 11, further comprising adding channels or serrations to the surface of the heat dissipating device.

13. The method of claim 11, further comprising adhering and bonding the thermal interface material to the surface.

14. A heat dissipating device, comprising:

a main body comprising a surface and channels or grooves or one or more of serrations, channels and grooves, defined by the surface.

15. The heat dissipating device of claim 14 wherein the main body defines a cavity and the channels or grooves or serrations or one or more of channels, grooves, and serrations are a portion of the surface defining the cavity.

16. An integrated circuit package comprising the heat dissipating device of claim 14.

17. The integrated circuit package of claim 16, further comprising a thermal interface material contacting the main body surface.

18. The integrated circuit package of claim 17, wherein the channels or grooves or channels and grooves increase the surface area of the heat dissipating device that is contacted by the thermal interface material.

19. The integrated circuit package of claim 17 wherein the thermal interface material comprises one or more of a polymer and a polymer solder hybrid.

20. The heat dissipating device of claim 1, further comprising channels or grooves or serrations or one or more of channels, grooves and serrations defined by the surface.

21. An electronic system comprising the integrated circuit package of claim 16.

22. An electronic assembly comprising the integrated circuit package of claim 16.

23. A method for preventing delamination in a thermal interface material that contacts a heat dissipation device surface, comprising:

applying a pre-attached solder to the surface of the heat dissipation device surface contacting the thermal interface material.

24. The method of claim 23 wherein the solder is pre-attached by cold forming.

25. The method of claim 23 wherein the pre-attached solder is applied by solder intermetallic compound (IMC) formations.

26. An electronic system, comprising:

an electronic assembly comprising a heat dissipating device, comprising:

a main body having a surface that is plated or coated with at least two different metals to form a design effective for bonding to solder and for adhering to polymer in a polymer solder hybrid.

27. The electronic system of claim 26 wherein the surface of the main body further comprises perturbations.

28. A heat dissipating device, comprising:

a main body having a surface that is plated or coated with at least two different metals to form a design effective for bonding to a thermal interface material.

29. The heat dissipating device of claim 1, wherein the two metals are one or more of the combinations of Ni/Au, Ni/Ag, Cu/Au, Cu/Ag, and Cu/Ni.